

29.08 inches at 8:30 a. m. The direction and force of wind at different hours were as follows:

2 a. m., ENE. 7; 6 a. m., NE. 9; 7 a. m., NE. 11; 8 a. m., NNE. 12; 8:30 a. m., shifting; 9 a. m., NW. 8; 10 a. m., WNW. 10; 11 a. m., W. 11; noon, SW. 10; 2 p. m., SSW. 7.

No other reports were received denoting unusual weather in that vicinity on the 10th, but on the 14th the Belgian S. S. *Olympier* encountered winds of a maximum force of 12 when near latitude 36° N., longitude 46° W., as shown by the storm log of that vessel given above. It is not improbable that this was the same storm in which the *Hammershus* was involved.

This storm must have been of very limited extent, as vessels within a comparatively short distance of the *Hammershus* and the *Olympier* reported only light to moderate winds.

#### NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

Atmospheric conditions over the North Pacific Ocean in September presented somewhat different characteristics from those of August. There was about an equal number of storms of tropical origin in each month but those of September maintained their organization into higher latitudes and more gales were reported from the northern part of the ocean. On the other hand the anticyclonic areas of September did not attain either the magnitude or intensity of those of August, although approximating the normal for the month.

As noted in the review of the weather for August a typhoon prevailed in the Philippines at the close of that month. An account of this storm, as well as of subsequent typhoon developments during September, will be found in a note by Rev. José Coronas, S. J., chief of the meteorological division of the Philippine Weather Bureau, on the weather of the Far East, appearing on page — of the REVIEW.

From this report it will be noted that the close of September found another typhoon prevailing in Asiatic waters, as was the case at the end of August. Only a few reports regarding this storm have been received at the present writing and reference to it is therefore reserved for the review of weather for October.

On September 5 there were indications of a depression in the region of latitude 25° N., longitude 170° E. During the 5th and 6th this disturbance moved in a NNW. direction, causing moderate gales in the region traversed. On the 7th it recurved near latitude 40° N., longitude 163° E., and moved rapidly eastward over the Aleutian Islands, at the same time apparently merging with a larger extratropical depression. On the 10th the combined disturbance covered the Gulf of Alaska and was causing moderate to fresh gales over the eastern part of the northern steamer route. This depression reached the British Columbia coast on the 12th.

On the 12th and 13th the American S. S. *Colusa*, Capt. H. L. Jones, Calcutta for San Francisco, was involved in a tropical storm in latitude 24°–24° 30' N., longitude

149°–152° E. Mr. G. W. Stevens, second officer and observer, in reporting on the weather experienced, states that as early as the 10th there was a small head sea, although the sky was cloudless and there was only a gentle breeze from the ENE. On the 11th rain squalls were experienced and the wind increased somewhat; there was a moderate to rough sea. On the 12th the weather was overcast, with the wind continuing to increase to a whole gale from the SE., accompanied by a large confused sea, generally from the SE., and a large SSE. swell. The ship's course was changed during the height of the storm to bring the wind on the starboard bow. The effect of this was shown, after a time, by a rise in the barometer. The lowest barometer was 29.48 inches, at 10 p. m. of the 12th. Shifts of wind, E. to S. by E.; highest force, 10.

Thus the *Colusa*, which had experienced the typhoon of August 30 when in the harbor of Manila, was within the space of two weeks involved in a second tropical storm, evidently crossing its course just ahead of the center.

The subsequent movement of this storm can not be determined with certainty as yet; but it is probable that it moved on a northwesterly course, recurved near Nippon, and was identical with the storm of marked intensity which appeared to the eastward thereof on the 15th–16th.

This storm, which appears to have been the most important of the month, continued on a course about ENE., toward the Aleutians. Its path can be traced fairly well to the coast of southeastern Alaska, which it reached on the 22d.

The American S. S. *Imlay*, Capt. H. Warrer, Shanghai for San Francisco, was involved in this storm on the 17th and 18th in latitude 43° 46' N., longitude 159° 165' E. The lowest barometer was 28.91 inches, which occurred at 11 p. m. of the 17th; highest wind force 11, W.; shifts of wind, SE., S., SW., WNW.

What is considered as an important feature of the weather of September was the gale off the Mexican coast on the 10th. Several ships experienced this disturbance. A typical case is that of the American S. S. *Eastern Glade*, Capt. John N. Ansell, San Pedro for Balboa. Running down the west coast of Mexico, this ship, according to Mr. F. Devine, second officer and observer, had a strong NW. to NNW. wind from the 6th through the 9th. On the 10th, without any great change in the barometer, the wind went to ESE. and increased to a strong gale. During the gale no marked change in the direction of the wind was noted. The lowest barometer was 29.74 inches, at 2 a. m. of the 11th, when in latitude 20° 30' N., longitude 107° 40' W.

Mr. A. H. Morris, observer on the American S. S. *West Cayote*, Capt. Chas. Erickson, also from San Pedro toward Panama, reports that the gale was preceded by a moderate SE. swell and very sultry air, but that the barometer gave no indication of a storm. The lowest barometer recorded was 29.78 inches at 12 p. m. of the 9th in latitude 18° N., longitude 104° W. Shifts of wind E. to S., highest force 7.